

Date: Thursday, 04/09/2008 1:24:55 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	FWD TUBE ASSEMBLY
<b>Job Number</b> :	41839		
<b>Estimate Number</b> :	10467		
<b>P.O. Number</b> :		<b>Part Number</b> :	D3391021
<b>This Issue</b> :	04/09/2008	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D3391 REV G
<b>First Issue</b> :	/ /	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	41838	<b>Drawing Revision</b> :	G
	<b>Type</b> :	<b>Material</b> :	
	SKIDTUBES	<b>Due Date</b> :	25/09/2008
<b>Written By</b> :		<b>Qty:</b>	1
<b>Checked &amp; Approved By</b> :	<u>JLD 08.9.04</u>	<b>Um:</b>	Each
<b>Comment</b> :	Est. A 05.09.13 New issue KJ/JLM Est. B 06.02.10 Dwg rev.D ecn 773 EC Est. C 06.05.02 Added inspections EC est D 07.03.13 rev F dwg EC est E 07.11.07 revG dwg ecn1053P EC verified by: DD Est Rev:f ECN 1056 07-11-12 DD verified by: EC		

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	D6013047	Skidtube Material
-----	----------	-------------------



**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
 SKIDTUBE MAT'L

Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	26547

8T 08-09-05

2.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
-----	-------------	-----------------------



**Comment:** LANDING GEAR RESOURCE 1  
 Cut extrusion to 46.52 +0.010 -0.020

8T 08-09-05

3.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------



**Comment:** Nc bender  
 Bend as per Dwg D3391 Using Bend Prog 3391021

8T 08-09-05

4.0	QC5	INSPECT WORK TO CURRENT STEP
-----	-----	------------------------------



**Comment:** INSPECT WORK TO CURRENT STEP

8 08/09/05 (80)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 04/09/2008 1:24:55 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41839

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine as per Folio FA590 Rev. F & Dwg D3391 Rev. G

Identify as D3391-1

2-Deburr

J.L 08/09/07

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.L 08/09/07

7.0

MILLING CONV.

CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE

Drill X1 Aft cap as per Dwg D3391 .1875" dia

SA 08/09/08

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

SA 08/09/08

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

08-09-08 (1)

10.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)  
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Deburr & Scribe Batch number Inside aft end.

6-Transfer drill D3391-021 with D3391-023

K  
7-9-8

8-9-9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 04/09/2008 1:24:55 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41839

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

50802608 (K)

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

AWM 8-9-9

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

① H 8-9-9

14.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SPACER

batch: B36818

②

H 8-9-9

15.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-instal spacers as per dwg D3391

A/R Magnabond 6398 batch: M108966

exp. date: 9-10-1

cure time 12hrs. as per QSI015

2- grind crossbolt flush

3-back drill crossbolt if necessary

H 8-9-9

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

50802608 (K)

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

7:20am

OVEN TEMPERATURE:

320°F

Jeff

08-09-10 (K)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 04/09/2008 1:24:55 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41839

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

FINISH TIME:

7:50 AM

W

08-09-10

XV

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

F-2 08/09/10 (X)

19.0

ALS41032130

Insert



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

INSERT

batch:

M105819

or equivalent

per QSI 017

M-L

20.0

ALS41032225

Insert



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

INSERT

batch:

M100489

or equivalent

per QSI 017

M-L

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Inserts as per Dwg

M-L

08/09/10

(X)

22.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Sosolov

23.0

D3401041

Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Tow Cap Assembly

Pick:

Qty

Part Number

Description

Batch

1

D3401-041

Tow Cap

B36216

M-L

08/09/10

(X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Thursday, 04/09/2008 1:24:55 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41839

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

D356413

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
WEARSHOE

B 41335

M-h

25.0

D356613

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
GASKET

B 41336

M-h

26.0

D36721

Phenolic Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
PHENOLIC WASHER

B 39275

M-h

27.0

AN3C4A

BOLT



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

Bolt

Pick:

Qty

Part Number

Description

Batch

4

AN3C4A

Bolt

M 109148

M-h

28.0

AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)  
washer

M 109147

M-h

29.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1  
Install tow Cap as per Dwg D3391  
Identify as D3391-021

M-h

08/09/10

(IX)

30.0

QC5

INSPECT WORK TO CURRENT STEP




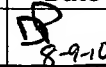
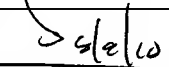
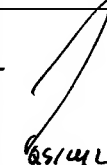
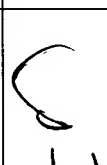
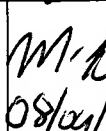






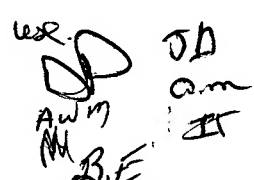
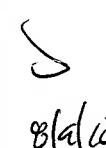

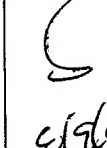
Comment: INSPECT WORK TO CURRENT STEP  
Inspect thread of each insert using DT8821

08/09/10

(PD)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3391-021 PAR #: N/A Fault Category: Prod / x-tube NCR: (Yes) No DQA: D Date: 08/09/10  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: 1 Date: 08/09/10

NCR: <u>41839</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
8/9/10	300	found when inspecting a Prod tube on Dancer's manufacturing that the working hole is not 0.620" instead of 0.640".		Drill correct size 0.640"	 8-9-10			
				Re touch up alvaline and the touch up with Zinnon Paint	 08/09/10			
	for 10.0	RC <del>and</del> employee was using wrong bit and never verified the size. <del>to</del> Drill was taken as .640" but was changed by see ac		Re mind all employees in Landing area to verify the Drill Bits prior to				
				 J.D. a.m. B.E.				

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:24:55 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41839

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Identify and Stock  
Location: \_\_\_\_\_

PPP 40499A

32.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/09/10 DJ

Job Completion



U 08.02.10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 41839
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b> D3391-1
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> G	<b>Page 1 of 1</b>

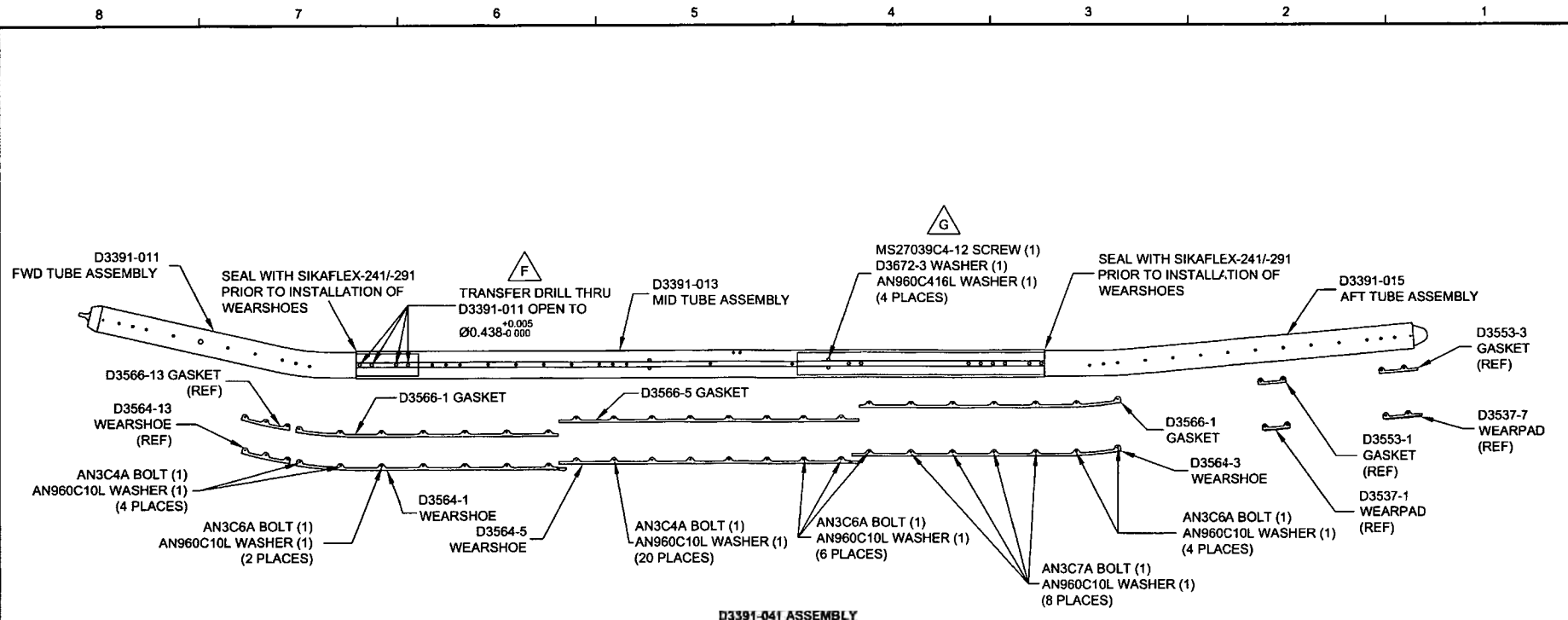
### FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**
☐ **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.687	+0.010/-0.000	.695	✓			
3.590	+0.025/-0.010	3.609	✓			
3.300	+0.040/-0.000	3.325	✓			
1.429	+0.040/-0.060	1.420	✓			
4.250	+/-0.010	4.249	✓			
4.250	+/-0.010	4.250	✓			

<b>Measured by:</b> J.L.	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b> N/A
<b>Date:</b> 08/09/07	<b>Date:</b> 08-09-08	<b>Date:</b> N/A

Rev	Date	Change	Revised by	Approved
A	06.04.27	New Issue P/O D3391-011/-021	KJ/JLM	
B	06.06.19	Tolerances revised per D3391 Rev. E	KJ/JLM	
C	07.03.21	Dimensions removed per Dwg rev. F	KJ/JLM	
D	07.11.23	Dwg Rev. updated	KJ/EC/DD	[Signature]



**D3391-041 ASSEMBLY**

**RELEASED**  
27-11-87

**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
4	D3672-3	WASHER
24	AN3C4A	BOLT
32	AN3C6A	BOLT
8	AN3C7A	BOLT
4	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

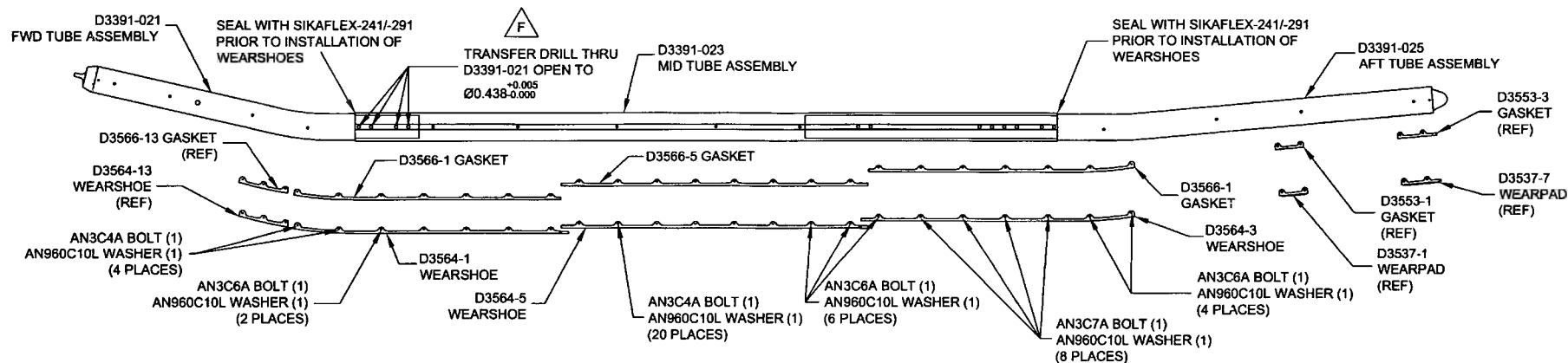
**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	SP	PORT HADLOCK, WA	
CHECKED	SP	DRAWING NO.	REV. G
MFG. APPR.	SP	D3391	SHEET 1 OF 8
APPROVED	SP	TITLE	SCALE
DE APPR.	SP	412 FLOAT SKIDTUBE	NTS
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

SHOP COPY  
RETURN TO  
ENGINEERING  
CONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 41831



**D3391-043 ASSEMBLY**

**D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
24	AN3C4A	BOLT
12	AN3C6A	BOLT
24	AN3C7A	BOLT
24	AN960C10L	WASHER

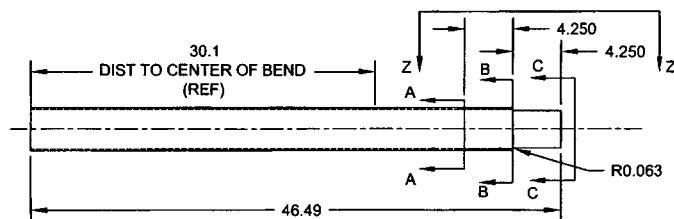
**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

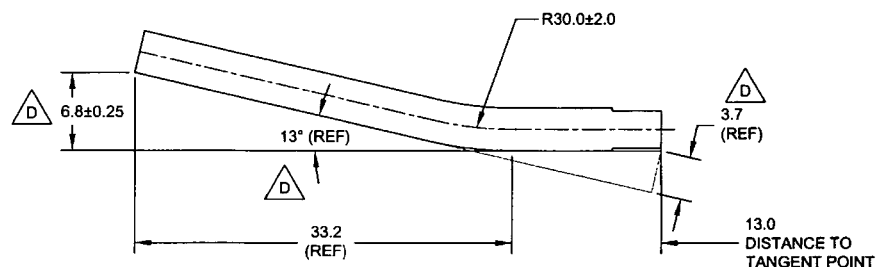
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>
DRAWN	JLC	PORT HADLOCK, WA
CHECKED	b	DRAWING NO. REV. G
MFG. APPR.	RF	D3391 SHEET 2 OF 8
APPROVED	PH	TITLE SCALE
DE APPR.	PH	412 FLOAT SKIDTUBE NTS
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

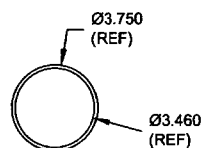
NO. 41851  
WORK ORDER  
WITHOUT NOTICE  
SUBJECT TO AMENDMENT  
UNCONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY



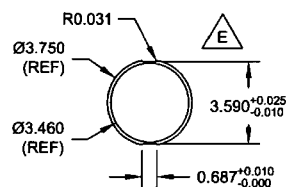
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



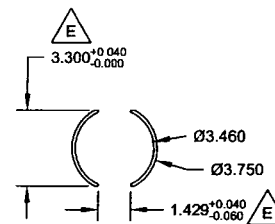
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



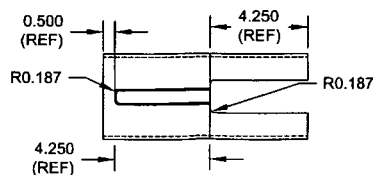
**SECTION A-A**  
(SCALE 1:5)



**SECTION B-B**  
(SCALE 1:5)



**SECTION C-C**  
(SCALE 1:5)



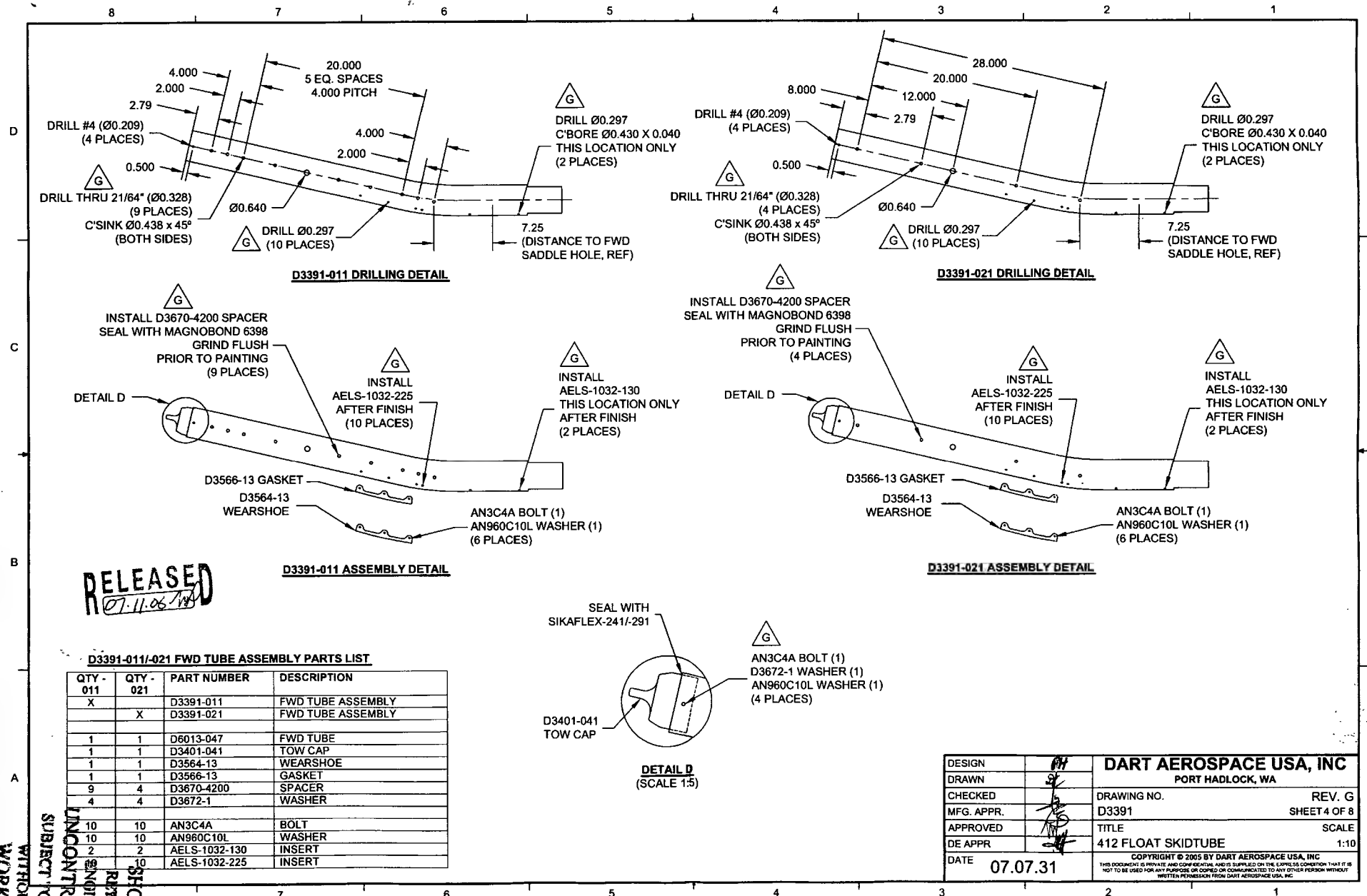
**VIEW Z-Z**  
(SCALE 1:5)

RELEASED  
27-11-06 MP

NO. 17831  
WORK ORDER  
WITHOUT NOTICE  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
ENGINEERING  
RETURN TO  
SHOP COPY  
REVIEW TO

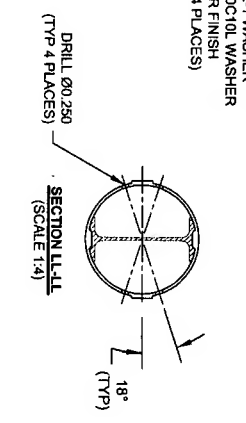
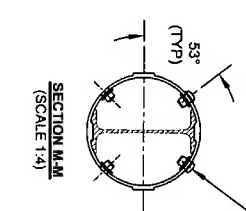
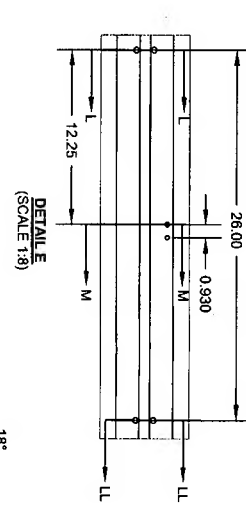
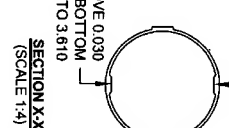
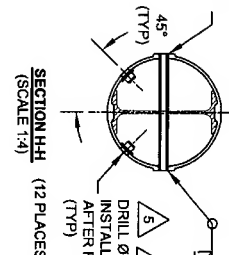
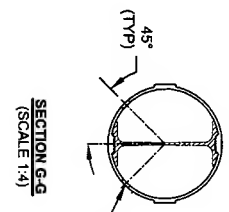
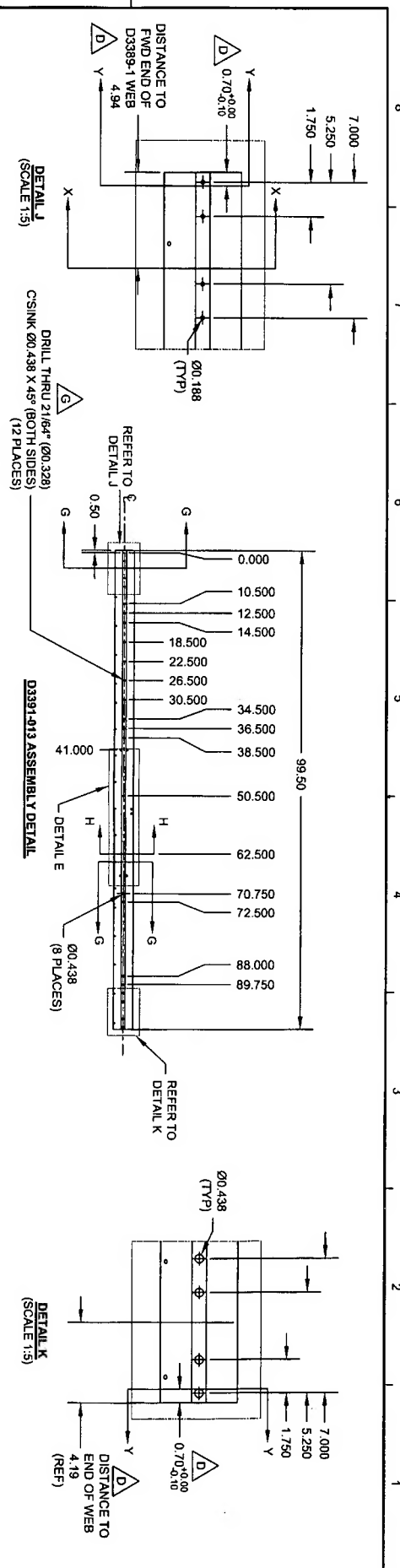
DESIGN		<b>DART AEROSPACE USA, INC</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	1:10
DATE	07.07.31	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	





RELEASED  
07-11-06/14

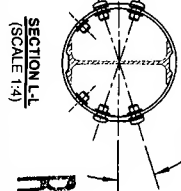
NO 41234  
WORK ORDER  
WITHOUT NOTICE  
SUBJECT TO AMENDMENT  
UNCONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY



**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
12	D3681-1	SPACER
4	D3672-1	WASHER
4	D3672-3	WASHER
24	ALS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C10L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

INSTALL ALS4-428-165 INSERT  
MS27039C4-08 SCREW  
D3672-3 WASHER  
AFTER FINISH  
(TYP 4 PLACES)



**DART AEROSPACE USA, INC.**  
PORT HADLOCK, WA

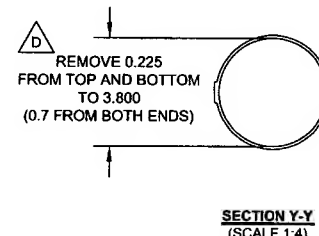
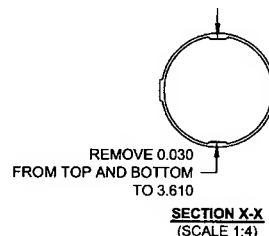
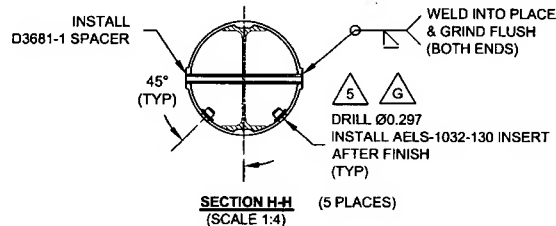
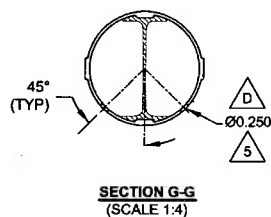
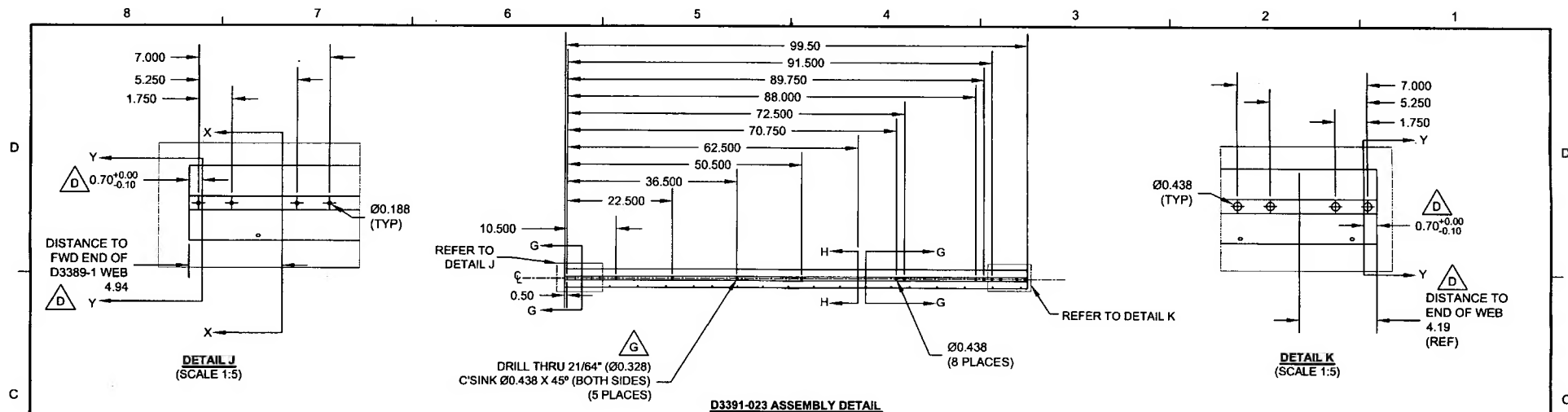
DESIGN	#	REV	DATE
DRAWN	SP		07.07.31
CHECKED			
APPROVED			
DATE			

**TITLE**  
412 FLOAT SKIDTUBE  
SCALE  
1:20

NO. 178331  
WORK ORDER  
FOR AMENDMENT  
TO RETURN TO  
ENGINEERING  
FOR COPY

RELEASED  
07.11.2017

**DART AEROSPACE USA, INC.**  
PORT HADLOCK, WA  
REV. G  
SHEET 6 OF 8  
SCALE  
1:20



#### D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

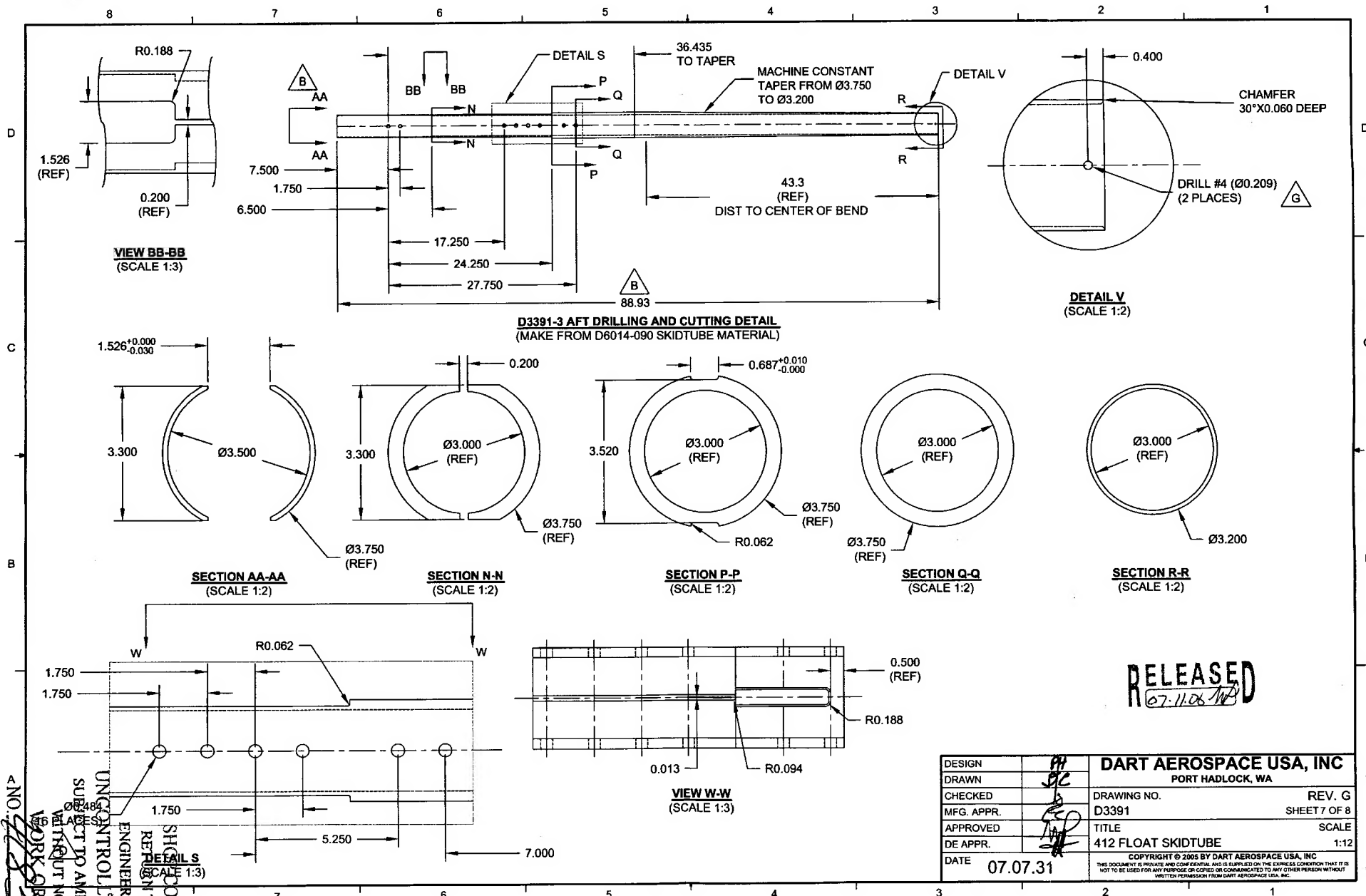
#### D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

RELEASED  
07-11-06/11

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	DE	PORT HADLOCK, WA	
CHECKED	DE	DRAWING NO.	REV. G
MFG. APPR.	DE	D3391	SHEET 6 OF 8
APPROVED	DE	TITLE	SCALE
DE APPR.	DE	412 FLOAT SKIDTUBE	1:20
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

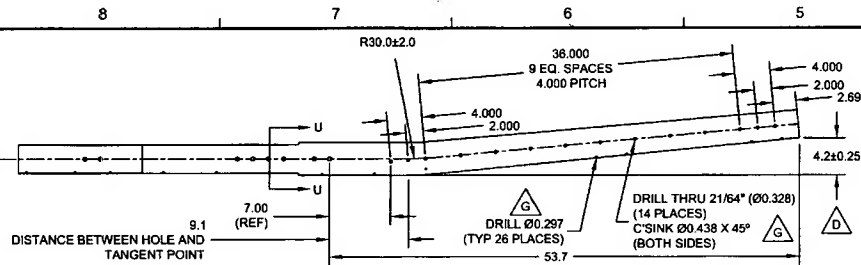
NO. 42839  
SHOP COPY  
RETURN TO  
ENGINEERING  
CONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE



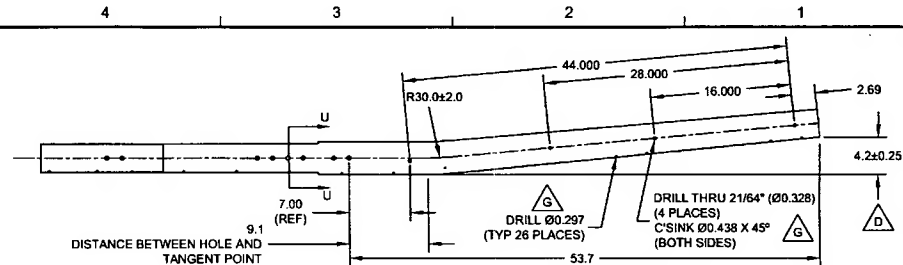
RELEASED  
07-11-08

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	JLC	PORT HADLOCK, WA	
CHECKED	JLC	DRAWING NO. D3391	REV. G
MFG. APPR.	JLC	SHEET 7 OF 8	
APPROVED	JLC	TITLE	SCALE
DE APPR.	JLC	412 FLOAT SKIDTUBE	1:12
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

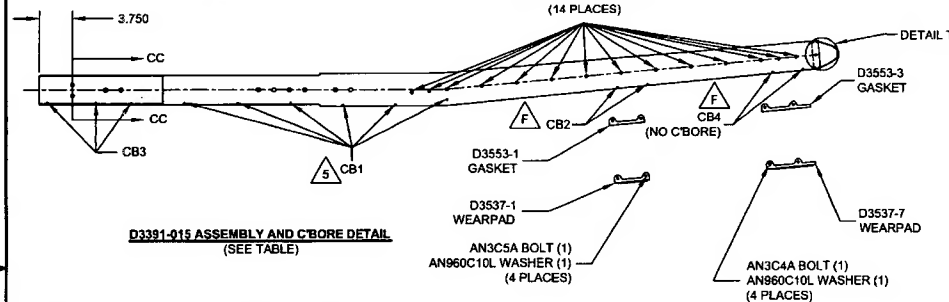
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 412



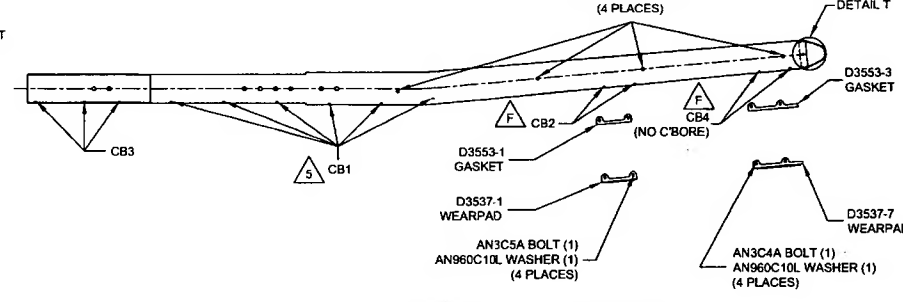
**D3391-015 BENDING AND DRILLING DETAIL**  
(SEE C'BORE DETAIL BELOW)



**D3391-025 BENDING AND DRILLING DETAIL**  
(SEE C'BORE DETAIL BELOW)



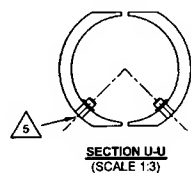
**D3391-015 ASSEMBLY AND C'BORE DETAIL**  
(SEE TABLE)



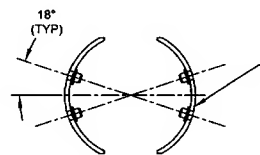
**D3391-025 ASSEMBLY AND C'BORE DETAIL**  
(SEE TABLE)

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4	4	ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

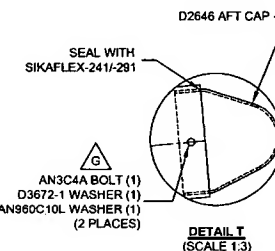


**SECTION U-U**  
(SCALE 1:3)



**SECTION CC-CC**  
(SCALE 1:3)

DRILL Ø0.391  
C'BORE Ø0.516 X 0.040 DEEP  
INSTALL ALS4-428-165 INSERT (1)  
(4 PLACES)



**RELEASED**  
07-11-06

C'BORE HOLES MARKED CB1-CB4 AS FOLLOWS AND  
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'BORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>
DRAWN	DK	PORT HADLOCK, WA
CHECKED	JS	DRAWING NO. D3391
MFG. APPR.	JS	REV. G SHEET 8 OF 8
APPROVED	JS	TITLE 412 FLOAT SKIDTUBE
DE APPR.	JS	SCALE 1:12
DATE	07.07.31	

COPYRIGHT © 2005 BY DART AEROSPACE USA, INC  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS  
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT  
WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

WORK ORDER NO. 41837  
WITHOUT NOTICE  
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
CT TO AMENDMENT